

SURFACE EXPRESSION METHOD OF PEPTIDES P5 AND ANAL3 USING THE GENE ENCODING POLY-GAMMA-GLUTAMATE SYNTHETASE

ABSTRACT OF THE DISCLOSURE

The present invention relates to a method for expressing each of peptide antibiotics P5 3 and Anal3 35 having amphiphilicity and showing antibacterial, antifungal and anticancer activities 61, 63, 65, 67, 69, 71, on the microbial surface, using a vector containing outer membrane protein genes (pgsBCA) that are derived from *Bacillus* sp. strains and involved in the synthesis of poly-gamma-glutamate. Moreover, the present invention relates to lactic acid-forming bacteria having each of the peptide antibiotics P5 15 and Anal3 43 expressed on their surface, and the use thereof.

According to the present invention, the peptide antibiotics can be expressed on the surface of various microorganisms transformed with the surface expression vectors. The inventive method for the surface expression of the peptide antibiotics allows the peptide antibiotics to be mass-produced without a purification process. Thus, the inventive method has very high industrial applicability. Further, the present invention can be applied to other peptide antibiotics besides P5 3 and Ana13 35.